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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/914,131

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Yasunari Ikeda

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7590

12/17/2004

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EXAMINER

WARE, CICELY Q

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,131

Applicant(s)

IKEDA ET AL.

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a **separate sheet within the range of 50 to 150 words**. It is important that the **abstract not exceed 150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fazel et al. (US Patent 6,275,506) in view of Shelswell et al. (US Patent 5,610,908).

(1) With regard to claim 1, Fazel et al. discloses a digital broadcasting apparatus for generating a digital broadcasting signal based on data of source information and modulating the same to a predetermined broadcasting frequency for output, comprising:

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a sub-signal generating circuit (Fig. 1) for generating a sub-signal for controlling signal transmission; a random sequence generating circuit (Fig. 2 (5)) for generating a pseudo-random sequence using an initial value of a random number code set based on said broadcasting frequency; a sub-signal modulating circuit (Fig. 2 (5)) for modulating the sub-signal using the pseudo-random sequence generated by the random sequence generating circuit (col. 1, lines 21-27, col. 2, lines 25-61, col. 5, lines 19-23, col. 6, lines 15-19, 26-67, col. 9, lines 25-34).

However Fazel et al. does not disclose a modulating circuit for performing modulation according to a predetermined modulating scheme using a main signal generated based on the data of source information and output signal of the sub-signal modulating circuit.

However Shelswell et al. discloses in (Fig. 1) a modulating circuit (28) for performing modulation according to a predetermined modulating scheme using a main signal generated based on the data of source information and output signal of the sub-signal modulating circuit (col. 1, lines 57-61, col. 2, lines 59-62, col. 3, lines 8-16, col. 4, lines 27-29, col. 9, lines 9-13).

Therefore it would have been obvious to one of ordinary skill in the art to modify Fazel et al. in view of Shelswell et al. to incorporate a modulating circuit for performing modulation according to a predetermined modulating scheme using a main signal generated based on the data of source information and output signal of the sub-signal modulating circuit in order to reduce the peak amplitude or power of the components in

a multiple-carrier frequency division multiplex signal (Shelswell et al., col. 2, lines 55-57).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Shelswell et al. further discloses wherein said modulating circuit is an OFDM modulating circuit for performing OFDM modulation using said main signal and output signal of said sub-modulating circuit (col. 1, lines 57-61, col. 3, lines 8-16, col. 4, lines 27-29, col. 9, lines 9-13).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Shelswell et al. further discloses wherein said data of source information is sound data obtained by encoding a sound signal (col. 4, lines 27-34).

(4) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Shelswell et al. further discloses in (Fig. 1) a frequency interleaving circuit (24) for frequency interleaving a main signal generated according to said data of source information by using a parameter set based on said broadcasting frequency and a modulating circuit (28) for modulating said frequency-interleaved main signal based on a predetermined modulation scheme to realize the large coding gain in all fixed and mobile receiving conditions (col. 1, lines 23-25, col. 4, lines 27-54).

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fazel et al. (US Patent 6,275,506) in view of Shelswell et al. (US Patent 5,610,908) as applied to claim 5 above, and further in view of Nakagawa et al. (US Patent 6,256,508).

With regard to claim 6, claim 6 inherits all the limitations of claim 5. Fazel et al. in combination with Shelswell et al. disclose all the limitations of claim 5 above. However Fazel et al. in combination with Shelswell et al. do not disclose a sub-modulating circuit for modulating said sub-signal by using a pseudo-random sequence generated by using an initial value of a random number code set based on the broadcasting frequency and for supplying the modulated signal to said modulating circuit.

However Nakagawa et al. discloses in (Fig. 7) a sub-modulating circuit (12, 14) for modulating said sub-signal by using a pseudo-random sequence (32-1,n) generated by using an initial value of a random number code set based on the broadcasting frequency and for supplying the modulated signal to said modulating circuit (33-1,n) (abstract, col. 1, lines 59-67, col. 2, lines 1-8, col. 8, lines 29-50).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Fazel et al. in combination with Shelswell et al. in view of Nakagawa et al. to incorporate a sub-modulating circuit for modulating said sub-signal by using a pseudo-random sequence generated by using an initial value of a random number code set based on the broadcasting frequency and for supplying the modulated signal to said modulating circuit in order to avoid occurrence of interference of the radio wave signals

in adjacent areas in the broadcasting zones of the broadcasting stations (Nakagawa et al., col. 6, lines 21-26).

Allowable Subject Matter

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a digital broadcasting apparatus for generating a digital broadcasting signal based on a data source information and modulating the same to a predetermined broadcasting frequency for output. Prior art references show similar methods but fail to teach: a predetermined channel number assigned to each channel and said random sequence generating circuit sets an initial value of a random number code for generating said pseudo-random sequence based on said channel number.

Conclusion

6. The prior art made record of and not relied upon is considered pertinent to applicant's disclosure:

- a. Kishimoto et al. US Patent 6,314,083 discloses a frequency control device and method for frequency synchronization with multiplex signal by OFDM, receiving device and communication device.
- b. Alard US Patent 6,278,686 discloses construction of a multicarrier signal.

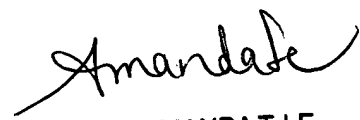
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
December 2, 2004


AMANDA T. LE
PRIMARY EXAMINER